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Coopers and Lybrand, Washington, DC

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December, 1978

Water

EPA

Report to Congress
Industrial Cost Recovery

Volume I —
Executive Summary

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This document presents the U.S. Environmental Protection Agency's final report to the Congress on its Industrial Cost Recovery Study as directed by the Congress in Section 75 of Public Law 95-217, the Clean Water Act of 1977. This provision of the statute requires EPA to study the "efficiency of, and need for" the repayment by industry of that portion of the EPA grant used for construction of industrial capacity in publicly-owned wastewater treatment systems, and requires EPA to report the results of the study to the Congress by December 31, 1978. The final report consists of seven volumes:

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REPORT TO CONGRESS

ON

INDUSTRIAL COST RECOVERY STUDY

VOLUME I

EXECUTIVE SUMMARY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 25 1979

THE ADMINISTRATOR

Honorable Walter F. Mondale
President of the Senate
Washington, D.C. 20510

Dear Mr. President:

The Environmental Protection Agency (EPA) is pleased to submit to the Congress its report on the study of the efficiency of, and the need for, Industrial Cost Recovery (ICR). This study and its report was directed by the Congress in section 75 of the Clean Water Act of 1977 (Public Law 95-217). This study was conducted with the fullest public participation achieved to date by EPA in any major study. A broad spectrum of industrial, environmental, civic, and governmental organizations were actively and voluntarily involved in the decision-making process throughout the project.

Based on the data available, the study concludes that the ICR provisions of section 204(b)(1) of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) are not effective in accomplishing their legislative purposes. It should be realized that the ICR Study took place early in the actual implementation of the ICR program, and that there is only a limited quantity of actual data available. However, the following trends were discernible:

- Changes in the tax laws have largely mooted the question of the Construction Grants Program being a subsidy to industries utilizing publicly-owned treatment works.

- ICR has had only a minor impact upon water conservation, when compared to the effects of proportionate user charges. In most cases, ICR has had an insignificant impact on industrial decision-making.

- ICR has been extremely difficult to manage for both grantees and EPA, and will continue to be a resource intensive activity, if ICR is continued. ICR tends to be more of a managerial burden in small communities than in large communities.

- The exemption for industries with flows of 25,000 gallons or less per day makes the program somewhat more manageable for grantees, but is inequitable because many industries are exempted from ICR based only on size.

- With the exception of small communities with very large industrial flows, ICR produces little discretionary revenue for most local governments, particularly when revenues are compared with local costs of administering ICR.

- ICR is a 30-year program after the construction is completed. During this period, the industrial payment recovered to the U.S. Treasury is estimated to be $30 million per year.

- The user charge system is effective in accomplishing the bulk of the aims of ICR, especially on inducing waste reduction or water conservation.

Specific legislation is being considered for the legislative package to Congress. I trust that the report proves fully satisfactory to you and the Committee. If you have additional questions, please contact me.

Sincerely yours,

Douglas M. Costle

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 25 1979

THE ADMINISTRATOR

Honorable Thomas P. O'Neill, Jr.
Speaker of the House of Representatives
Washington, D.C. 20515

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I. EXECUTIVE SUMMARY

This document presents the U. S. Environmental Protection Agency's final report to the Congress on its Industrial Cost Recovery Study as directed by the Congress in Section 75 of Public Law 95-217, the Clean Water Act of 1977. This provision of the statute requires EPA to study the "efficiency of, and need for" the repayment by industry of that portion of the EPA grant used for construction of industrial capacity in publicly-owned wastewater treatment systems, and requires EPA to report the results of the study to the Congress by December 31, 1978.

The final report consists of seven volumes:

- Volume I - Executive Summary (this volume)
- Volume II - Detailed Methodology, Findings and Conclusion
- Volume III - Exhibits
- Volumes IV-VII - Transcripts of Public Meetings

1. Summary

EPA instructed its contractor (Coopers & Lybrand) "to examine -- with full public participation -- the efficiency of, and need for, the Industrial Cost Recovery (ICR) provision of the Federal Water Pollution Control Act." The first task was to compile the issues to be addressed, and the questions to be asked. The legislative history was reviewed relative to both the 1972 and 1977 Acts, P.L. 92-500 and 95-217 respectively. In particular, the questions raised by Congressman Roberts in the

December 15, 1977 Congressional Record served as a point of reference.

In order to foster early public participation, an ICR Advisory Group was formed composed of approximately 40 individuals representing a broad cross-section of industrial, environmental, civic, local government, and Congressional viewpoints. Two survey questionnaires were developed, and were revised to reflect the Advisory Group's comments. After clearance by the Office of Management and the Budget, survey data was gathered from 227 sanitary agencies and 394 industrial plants. Monthly meetings of the ICR Advisory Group were held in Washington, and the members kept their constituents informed of the study's progress.

It should be realized that the ICR Study mandated by Congress took place early in the ICR program, and that there is only a limited quantity of actual data. For that reason, the study team examined the intent of ICR, and relied upon simulation to identify how industry should act rather than relying solely on presently available data. The data gathered during the survey was analyzed, and special studies were performed and evaluated with respect to the legislative intent behind Industrial Cost Recovery (ICR), which can be summarized in four ideas:

- the maintenance of parity in sewage treatment costs (Is sewage treatment less expensive for industries using treatment works paid for in part by federal funds than it is for industries treating their own sewage?);

- capacity, or the design and construction of wastewater treatment systems with adequate but not excess capacity for future growth;

- water conservation; and

- self-sufficiency, as forty percent of ICR is retained by the grantees, earmarked for future upgrading and expansion of the wastewater treatment works.

It was also evident that Congress intended to foster industrial participation in publicly owned treatment works (POTWs) and the development of regional approaches to wastewater treatment where feasible. The data was also evaluated with respect to the economic impact of ICR on industry and on grantees (sanitary agencies). The findings and possible alternatives resulting from the analyses were presented at ten public meetings conducted in the ten federal Regional Cities, and public reaction and comments were solicited.

It appears that ICR does not substantially satisfy any of the four purposes set forth in the legislative history:

- Parity. Changes in tax law and IRS regulations since 1972 have impaired the ability of (or need for) ICR to serve as an equalizer in sewage treatment costs. Based strictly on economic considerations, for medium or large dischargers of compatible wastes, it appears less expensive over time to build and operate their own self-treatment facilities than it is to pay a proportionate share of the operating costs and local debt service of a public sewage treatment system. Even without ICR, medium or large dischargers do not have a significant cost advantage over those who do not have access to a POTW. Small users generally are situated in urban areas and have access to a POTW. Small users generally choose to join a POTW because of local ordinances relating to use of public sewers, pollutions control laws requiring permits for discharge, and -- more importantly to the small industry -- the economics of their size and location. For most industrial users of POTWs, ICR is a slight

additional financial burden (about 10 to 15% of the sewer user charge). Use of a POTW has a distinct advantage in that an industry does not have to tie up capital or bonding capability except for connection and pretreatment facilities.

- Capacity. It appears that ICR, as presently formulated, does not impose sufficient costs to affect decisions on sizing of POTWs. The average usage by all users in the 227 facilities surveyed was 68% of design capacity.

- Water Conservation. ICR is not credited with a role in encouraging water conservation. The industrial plants responding to our survey reported an average reduction in water use of 29% (which could have an impact on the amount of future capacity that should be built), but attributed the reduction to increased water rates and sewer user fees rather than ICR, since ICR is a relatively small charge to industry when compared with sewer user fees and water rates. (ICR on the average is equal to about 10-15% of toal sewage costs).

- Self-Sufficiency. Total ICR revenues collected are estimated to be an average of $60 million per year, when all POTWs funded under the authorization of P.L. 92-500 and P.L. 95-217 are in place. Total ICR retained by all the grantees (more than 5,000 in number) would be an average of $24 million per year (40% of $60 million). This amount would not make a significant contribution toward the grantees' financial capability to meet the costs (when adjusted for inflation in the ensuing recovery period), for future expansion and upgrading of their wastewater treatment works.

ICR has had little economic impact to date; total ICR collections to date are less than $2 million. Few jurisdictions have implemented ICR, and most of those who have implemented ICR have suspended ICR collections (as permitted by law) until June 30, 1979. Exceptions to the insignificant impact of ICR are those cases where there are seasonal users or where advanced waste treatment (AWT) is required. In the case of seasonal

users, total sewage costs for industry have increased by as much as several times. In the case of AWT, the cost to industry is much greater (by about 50%) per gallon as compared with secondary treatment. The impact of ICR is generally not great (less than 15% of total sewage charges), with the exception of the two cases previously mentioned.

The study team could identify only a few scattered instances of plant closings due to increased sewage costs, and none attributable solely to ICR. In every case, there were also other factors such as plant age which affected the plant closing decision.

ICR rates tend to be higher in older cities, particularly in the northeast, and particularly in small to medium sized cities, and in agricultural communities. The study team could not measure any actual impact of ICR on small versus large businesses, because very few industrial plants were willing to disclose production or sales data. ICR to date has had no significant impact on employment, plant closings, industrial growth, import/export balance, or local tax bases.

The incremental cost to grantees to maintain and operate ICR (that is, the "eliminatable cost" above and beyond user charge costs) is small (averaging about $15,000 per grantee per year) when compared to the total costs of sewage treatment (averaging about $6.0 million per grantee per year). Average ICR revenues

per grantee per year are approximately $101,000, of which 40% ($40,400) is retained by the grantee for future expansion and upgrading, and 10% ($10,100) is retained for discretionary use by the grantee.

Recognizing that ICR was not functioning as intended, the study team (working with the Advisory Group, EPA officials, and public comments received) developed a series of sixteen alternatives to ICR as it now exists. The alternatives were formulated from a viewpoint of simplicity, practicality, and acceptability. The alternatives were presented for public comment and discussion at the ten public meetings conducted in the EPA Regional Office cities.

Based on the data gathered, the analysis and evaluation of the data, and in particular the comments received from the public, the following conclusion is presented for immediate consideration:

THE INDUSTRIAL COST RECOVERY PROVISIONS OF P.L. 92-500 HAVE NOT ACCOMPLISHED THEIR LEGISLATIVE PURPOSES.

This conclusion is the only conclusion submitted for immediate Congressional consideration, and is also the only conclusion clearly supported by a consensus of the Advisory Group and participating public. This conclusion should be considered separately and independently from any other issues identified during the course of the study. Note that this conclusion is based on data from the existing P.L. 92-500 ICR

systems, and does not reflect the recent changes made by P.L. 95-217, which when implemented by a grantee, will exempt industrial users discharging less than the equivalent of 25,000 gpd of sanitary waste from ICR. While these changes may simplify the administration of ICR, they will not enhance the accomplishment of its legislative purposes.

Some of the other issues identified were related to the intent of ICR and to the total cost of sewage treatment. These issues are not all-inclusive, and may require future study, in light of the passage of the Clean Water Act of 1977 (P.L. 95-217) and its implementing Regulations. The following issues were identified in the context of public review and comment of the study: change the criteria for determining the amount of capacity eligible for federal grant support, to eliminate federal support for speculative industrial capacity; require repayment of local debt service on a proportional basis; and require each grantee to establish a locally administered trust fund for reconstruction or expansion of the treatment works, charging a uniform national rate to all users.

A more extensive discussion of the preceding appears in the remainder of this volume, while a detailed discussion of the study's methodology ,findings, and conclusion appear in Volume II, with supporting exhibits presented in Volume III. Transcripts of public meetings conducted during the study appear in Volumes IV - VII.

2. Project Methodology

EPA's Contract 68-01-4801 included a Scope of Work (see Exhibit V-1-1 in Volume III) which required its contractor, Coopers & Lybrand, to "examine -- with full public participation -- the efficiency of, and need for, the Industrial Cost Recovery provisions of the Federal Water Pollution Control Act." The objective was to be met through work divided into three phases:

- development of study methodology
- collection of needed information
- data analysis and report preparation

A brief recapitulation of the project methodology follows.

The first action taken by the study team was to review the 1972 and 1977 legislative history related to User Charge and Industrial Cost Recovery to determine the objectives of ICR. Stated briefly, there were four ideas contained in the legislative history:

- Parity, or the equalizing of the assumed economic advantage (namely, less expensive sewage treatment costs) for those industries using public sewage systems, as opposed to those industries treating their own sewage and discharging it directly;
- Capacity, or the appropriate sizing of wastewater treatment plants with adequate but not excess future capacity. ICR was one of several tools available to assure the proper planning of grant-funded wastewater facilities;
- Water Conservation; and

- Self-sufficiency, since 40% of the ICR is retained by the grantee for future expansion and upgrading of their wastewater treatment works.

This background material, including Congressman Roberts' nine questions in the Congressional Record of December 15, 1977, and a GAO letter report dated April 11, 1978 summarizing findings related to ICR, served as the frame of reference for the plan of study.

The initial step, in late May of this year, was for the contractor to meet with EPA Regional Office and Headquarters personnel who were involved in ICR implementation and to develop a tabulation of every piece of data that could be identified as being useful in answering the specific questions already asked about ICR (and some related to User Charges) as well as addressing more general issues that were involved. This list of data elements was converted into two draft survey questionnaires -- one for industry, and one for grantees. The draft questionnaires were reviewed by the ICR Advisory Group and the Office of Management and Budget. These survey questionnaires appear as Exhibits V-1-2 and V-1-3, in Volume III of this report.

After refining the questionnaires, a survey population was identified, including:

- Approximately 100 cities which were to have on-site visits. These cities ranged in size from Ravenna, Nebraska (population 561) to New York City and Chicago. Eventually, approximately 120 cities were

visited, some of them twice, if there was strong local interest in the study. The standard procedure was to attempt to meet first with the local agency responsible for the wastewater treatment, then with industrial people, then with civic or public groups later in the day. Survey questionnaires were mailed ahead of time to people who were to be interviewed, so they would know the kinds of data being sought. It was stressed that participation in the survey was voluntary. In most cases, peopled mailed in completed questionnaires rather than meeting with the study team personally.

- A list of 200 additional cities for telephone surveys was developed. The same questionnaires were used as during on-site visits, and these questionnaires were mailed in advance to the people who were to be surveyed.

- A group of five (later expanded to six) industries was selected for detailed study. Although the study was interested in industry generally, particular interest was addressed to industries which met one or more of these criteria:

  - Labor intensive
  - Low operating margin
  - High water use
  - Size of industry (number of establishments or employees)
  - Seasonality
  - Extent of Pretreatment

  The industries eventually selected for detailed study were:

  - Meat packing
  - Dairy products
  - Paper and allied products
  - Secondary metal products
  - Canned and frozen fruit and vegetables
  - Textiles

  A list of selected establishments in those industries (located in the cities which were to be visited or telephoned) was prepared, and survey forms mailed to those establishments.

The entire data collection effort was accomplished in less than seven weeks, using ten teams of consultants.

The second step in the study, and equally as important as the first step, was the development of mechanisms for public participation in the study. Grass roots involvement was desired, as was an open study. An ICR Advisory Group of approximately forty individuals, representing industrial, environmental, civic, local government, and Congressional interests was formed, and the study team relied on the Advisory Group to keep their local constituencies involved in the study. Monthly meetings were held in Washington, and transcripts of the meetings were mailed to anyone requesting them. (See Exhibit V-1-5, Volume III, for membership of the ICR Advisory Group, and Exhibit V-1-10, Volume III, for comments on the draft report by the Advisory Group. A transcript of Advisory Group comments appears in the November 29, 1978 transcript in Volume IV).

The third step in the project was to summarize and analyze the data collected. Several computerized statistical analyses were developed, and were subsequently refined. A previously developed tax model was modified to reflect industrial sewage treatment costs, to examine the parity issue. Preliminary conclusions were developed, and possible alternatives to ICR as it is presently constituted were formulated and presented for public discussion and comment. Based on the study's findings and conclusions, and reflecting public comment on the possible ICR alternatives presented, the conclusion was developed.

3. Findings and Alternatives

The study team received data from 227 grantees (that is, sanitary districts or agencies,. The most complete data was obtained from grantees actually visited by Coopers & Lybrand, which totalled 120. Less complete data was obtained from the 200 cities which were surveyed by telephone. The study team eventually received usable data from 107 grantees surveyed by telephone. Industrial data, at plant level, was received from 394 industrial facilities.

a. Findings With Respect to Legislative Intent

The first issue addressed was the issue of parity, or the assumed economic advantage (namely, less expensive sewage treatment costs) for industries using POTWs, versus those industries treating and discharging their own wastes.

The analysis indicates that for some medium or large industries having compatible wastes it is less expensive in the long run to self-treat than to pay User Charges and local debt service.

The findings indicate that, even without considering ICR, User Charges, or pretreatment costs, many industrial plants have an incentive to self-treat, because of tax advantages which include:

- Accelerated depreciation (over a five year period) for pollution control equipment;
- Investment tax credits for capital expenditures, and

- The use of tax-free IDB's (industrial development bonds) to finance self-treatment facilities.

Recently enacted tax law changes will make it even more attractive to industries to self-treat, because of the increased investment tax credits.

Few industrial plants in the surveyed municipalities are self-treating their wastes at present.

There could be several reasons for this condition:

- They are not geographically located on a receiving body of water to which they can discharge their treated sewage, and hence must use a POTW; or
- They don't want the administrative and operational problems associated with self-treatment -- NPDES permits, employment of sewage plant operators, etc.; or
- User Charge and ICR have not been in effect long enough to see their impact.
- Industries don't want to make the independent capital outlay or tie up bonding capability.

Some larger industrial plants are paying a modest premium to use a public sewer system if User Charges and local debt service are compared with cost of self-treatment.

It appears probable that the sum of ICR costs, pretreatment costs (as yet undefined), User Charges, and local debt service over time, may lead some industries (particularly large industrial users) to choose self-treatment. Where this choice was made after the POTW had committed to include capacity for the industry, the result could be POTWs that do not operate as designed,

and higher sewage bills for those customers who remain in POTWs (residential, commercial, industrial, and small industry).

The second legislative intent issue was that of POTW capacity, or the construction of wastewater treatment facilities with adequate but not excess future capacity.

It appears that ICR, as presently formulated, does not impose sufficient costs to affect decisions on sizing of POTWs.

POTWs are required to be built with enough capacity to serve existing domestic, commercial and industrial users, and to provide sufficient reserve capacity for projected growth during the 20-year planning period. The Agency has determined, based on analysis of the most cost-effective methods for construction of wastewater treatment facilities, that reserve capacity for such facilities normally should be approximately 20 to 40% of design capacity, with higher reserve capacity in areas of unusually high growth. Based on the survey of 227 wastewater treatment facilities from which the study team obtained data, the average POTW has about 32% reserve capacity, which is within the 20-40% range normally essential for cost-effective design. The cases where reserve capacity is considerably greater than 32% could result from high anticipated growth rates, slow schedules for hook-up of existing installations to the sewers, or the other factors including, in some cases, design of excess capacity for industrial or population growth which is desired but not fully justified on the basis of cost-effectiveness planning requirements. ICR apparently imposes such a minimal cost burden that it

has not been a factor in decisions on how much capacity should be planned in POTWs. User charges and charges for local debt service can be relatively high, however, during the time before anticipated growth and new hook-ups utilize reserve capacity in treatment plants and spread relatively fixed costs over a large number of users. These high initial charges have possibly been a factor in encouraging industrial water conservation. The higher user charges and debt service costs could cause industry to reduce flow even more than might be expected, and consequently, cause even higher sewage treatment costs to other users. Distribution of the initial costs of needed reserve capacity among present users can be a major local issue.

Based on the industries surveyed, water consumption has dropped by an average of 29%, but the industries do not attribute the reduction to ICR.

The industries surveyed attributed the water conservation to higher water rates and to User Charges, not to ICR, because ICR, as a percentage of water bill and User Charges, is not that significant at this time. ICR averages, on an annual basis, approximately 10-15% of total sewage costs for most industries. The apparent reduction in water usage by industry, if continued, could have an impact on the amount of future capacity required in wastewater treatment facilities.

Based on the best available estimates, the ICR revenue retained by all grantees (over 5,000 in total) would be and average of $24 million per year, when all POTWs funded under the authorization of P.L. 92-500 and P.L. 95-217 are in place

This amount, would not have any significant contribution toward the granteess' financial capability to meet the cost (when adjusted for inflation in the ensuing recovery period) for future expansion and upgrading of the wastewater treatment works.

b. Findings With Respect to Economic Impact.

ICR is one of a number of federal actions in the water quality area that have a potential economic impact on industry. As these actions are often interrelated, it is difficult to isolate the effect of any one action on industry.

The economic impact of ICR to date is not significant, in most areas

ICR has not been in effect for more than a year or two, and most grantees have suspended ICR billings while the ICR moratorium is in effect (thru June 30, 1979). Exceptions to the insignificance of ICR are those cases where there are seasonal users and/or advanced waste treatment (AWT). In the case of seasonal users, total sewage costs for industries have increased by a factor of as much as several times. In the cse of AWT, the cost to industry is much greater, (by about 50% per gallon) as compared with secondary treatment.

The impact of ICR is generally not great (less than 15% of total sewage charges) with the exception of the two cases previously mentioned.

The study team could find only a few scattered instances of plant closings due to increased sewage costs, and none attributable solely to ICR.

In every case, there were other factors such as plant age which also affected the plant closing decision. The study team was not able to identify any significant impact by ICR to date on employment, plant closings, industrial growth, import/export balance, or local tax bases.

ICR rates appear to be higher in older cities, particularly in the northeast, and particularly in small to medium sized cities, and in agricultural communities.

Most older cities have a physical plant that requires some rehabilitation, and construction costs tend to be higher in more heavily populated areas; therefore, ICR rates are also higher in older cities, since ICR rates are a function of construction cost. The same situation frequently occurs in agricultural communities, which construct wastewater treatment facilities designed to handle seasonal peak loads, and which have unused capacity for a significant portion of the year.

The study was not able to differentiate the impact of ICR on small versus large businesses, because very few industrial plants were willing to disclose production or sales data.

The industries receiving survey questionnaires were told that participation in the survey was voluntary, and that all data submitted was potentially subject to public scrutiny under the Freedom of Information Act. The study team told individual

industries that it was not anticipated that data related to specific industrial establishments would appear in the report. Industries were also told that data they were reluctant to allow competitors to obtain should not be provided to the study team. An insufficient number of industries provided sales or production data to allow any differentiation of ICR's impact on small versus large industries.

ICR does not appear to be cost-effective in producing discretionary revenue for local governments, at least in most cities.

The incremental cost to grantees to maintain and operate ICR (that is, the "eliminatable cost" above and beyond UC costs) is small (averaging about $15,000 per grantee per year), when compared to the total costs of sewage treatment, (averaging about $6.0 million per grantee per year). However, average ICR revenues per grantee per year are approximately $101,000, of which only $10,100 is retained for discretionary use by the grantee.

c. With Respect to Congressman Roberts' Questions

On December 15, 1977, Congressman Roberts inserted in the Congressional Record nine questions related to User Charges and Industrial Cost Recovery (see Exhibit V-1-4, Volume III). The questions, and the study team's response to them, appear below.

It should be noted that some of the questions require an examination of anticipated actions, an area that is difficult to analyze.

QUESTION

First (A) Whether the Industrial Cost Recovery program (ICR) discriminates against particular industries or industrial plants in different locations,

(B) And do small town businesses pay more than their urban counterparts?

(C) What is the combined impact on such industries of the user charge or ICR requirements?

FINDING

(A) ICR rates are different in different locations, and are a function of the cost of a wastewater treatment plants rate methodology, basis of allocation, etc. Some industries (especially heavy water users and/or strong dischargers) pay proportionally more for ICR than other users.

(B) Unit ICR rates appear to be higher in small treatment plants (less than 50 MGD) than in large treatment plants, and therefore ICR costs for similar industries would be different.

(C) The combined impact of User Charge (UC) and Industrial Recovery (ICR) is greatest on seasonal users (for ICR), on industries paying for AWT (for UC and ICR) and in those cases where rates prior to UC/ICR were low due to treatment levels or promotional (declining block) rate structures.

QUESTION

Second (A) Whether the ICR program and resultant user charges cause some communities to charge much higher costs for wastewater treatment than other communities in the same geographical area? (Some communities have indicated that disparities in ICR and user charges affect employment opportunities.)

(B) Whether a mechanism should be provided whereby a community may lower its user and ICR charges to a level that is competitive with other communities in order to restore parity?

FINDING

(A) We have not been able to identify any pattern of such cases, based on the data supplied to us by EPA or grantees.

(B) If a community were to lower its UC rates to be competitive with other nearby communities, a source of funding would have to be identified to provide for UC revenue, if the wastewater treatment plant is to be self-sufficient for OM & R costs and to operate at design levels of discharge. If ICR rates were lowered the federal government would receive less revenue than anticipated. Reduction of either UC or ICR rates would require that legislative mechanisms be enacted.

QUESTION

Third Whether the ICR program drives industries out of municipal systems, the extent and the community impact?

FINDING

There have been only a few instances of this happening to date, because very few communities have implemented ICR. Based on tax law, and the assumption that in the long run industry will choose the least expensive sewage treatment option, ICR (particularly when coupled with pretreatment) could encourage industry to self-treat. This would result in proportional increase in user charge costs and (possibly) in debt service costs, for the remaining POTW customers.

QUESTION

Fourth (A) Whether the industries tying into municipal systems pay more or less for pollution control than direct dischargers?

FINDING

It appears that medium or large size industries using a POTW could pay more (over time) for wastewater treatment than do direct dischargers

depending on the tax structure of the self-treatment alternative.

QUESTION

Fifth Whether the ICR program encourages conservation, the extent and the economic or environmental impact?

FINDING

ICR appears to have a role in encouraging conservation of water, but is an insignificant conservation factor to date, particularly relative to User Charges and water costs.

QUESTION

Sixth Whether the ICR program encourages cost effective solutions to water pollution problems?

FINDING

ICR appears to have had no noticeable effect on cost effective solutions to water pollution.

QUESTION

Seventh How much revenue will this program produce for local, State and Federal governments, and to what use will or should these revenues be put?

FINDING

Based on assumed eventual EPA grants of $45 billion, it appears that total ICR revenues will amount to $1-2 billion over 30 years. The split of these revenues would be:

- federal government -- $.5-1.0 billion (50%), to Treasury
- state government -- none
- local government --
  - for capital costs related to wastewater and to offset ICR administrative costs -- $.4-.8 billion (40%)

- for discretionary use -- $.1-.2 billion (10%)

This is considerably less than the $4.5-7.0 billion estimated in the 1972 legislative history. Possible reasons for the reduction include:

- liberalized definitions of "industry" by local governments
- self-treatment and/or pre-treatment
- exclusion for dry industries
- water conservation
- the 25,000 gpd floor implemented by P.L. 95-217

QUESTION

Eighth Determination of the administrative costs of this program, additional billing costs imposed, costs associated with the monitoring of industrial effluent for the purpose of calculating the ICR changes, ancillary benefits associated with the monitoring of industrial effluent, procedures necessary to take account of changes in the number of industries discharging into municipal plants, and the impacts of seasonal or other changes in the characteristics and quantity of effluents discharged by individual industries?

FINDING

The incremental costs of administering ICR (assuming that a User Charge system will be maintained) is relatively small, amounting to less than $20,000 per grantee per year, based on the data provided to us.

QUESTION

Ninth Whether small industries should be exempt from ICR? How should small be defined? Is there a reasonable floor that can be established for ICR based upon percentage flow?

FINDING

EPA has already excluded most industries discharging less than 25,000 gallons per day from ICR. We were unable to obtain sufficient data to reach a specific finding or conclusion related to the question.

d. Other Findings

During the course of the project, the study team made several findings which, although not directly related to the scope of work, are still of interest.

ICR is not generally understood by grantees or by industry.

Industrial cost recovery regulations are complex and difficult to understand. Almost universally, grantees hire outside consultants to explain the ICR regulations and design an approvable system to be submitted to EPA to meet grant requirements. Many grantees appear to be developing ICR systems with only a partial understanding of the legal or regulatory requirements. Both grantees and industrial users often fail to distinguish between User Charges and ICR, or between ICR and local debt service.

Repeated efforts (both legislative and regulatory) have been made to make ICR simpler and more cost-effective. These efforts have been partially successful, but have resulted in a dilution of the intent behind ICR. An example of this is the statutory

exemption from ICR for all dischargers with less than the equivalent of 25,000 gallons per day of sanitary waste. In addition, the Standard Industrial Classifications (SIC's) chosen by EPA to define industry exclude some large water users from ICR while including others. Since ICR rates are a function of POTW cost, disparities in ICR rates are inherent in the concept of ICR.

ICR is complicated to administer for both grantees and for EPA, and will require complex control mechanisms to assure integrity.

In order to administer ICR, considerable resources must be allocated by EPA at Headquarters level and in the Regional Offices, by the state agency responsible for water quality, and by the grantee. Relatively few ICR systems have been implemented because of the moratorium allowed by P.L. 95-217, and because many POTWs funded by P.L. 92-500 grants have not gone on line. To date, control procedures and mechanisms necessary to assure that the ICR regulations are enforced consistently have not been developed by EPA, and will have to be installed if ICR is continued after June 30, 1979. This would be a resource-intensive undertaking at all levels. Control procedures will be necessary to insure that grantees:

- correctly classify industrial users.
- calculate and charge the correct ICR amounts to individual industrial users.
- properly collect, account for, invest, and return ICR revenues to the U. S. Treasury through EPA.

EPA personnel, grantees, and industrial users all stressed that the law and related regulations are complex, difficult to understand, and hard to implement. In most cases, all groups felt that the amount of revenue generated ($101,000 annual average per grantee) did not justify the resources utilized.

Grantees frequently have limited information related to the determination of costs or to customer characteristics

Many grantees have accounting and budgeting systems which are unable to provide sound cost data needed for User Charge or ICR rate-setting. Most grantees have customer data bases that appear to be inadequate for the implementation of adequate monitoring and enforcement programs or pretreatment programs. Regardless of the decision on ICR, grantees will be required to upgrade their information on industrial users for User Charges and for pretreatment.

The adoption of UC/ICR revenue systems has caused a shift in grantee revenue sources

The study data indicates that, prior to adoption of UC/ICR systems, an average of 55% of grantee wastewater revenues came from the residential sector, with 45% coming from the non-residential sector. Subsequent to adoption of UC/ICR systems, this ratio was reversed.

Industries and grantees uniformly expressed concern over the costs of pretreatment

Almost without exception, grantees expressed concern over the impact that the enforcement of pretreatment requirements might have on industrial participation in POTWs. Many industries expressed an intention to reserve a final judgement on self-treatment over User Charges and ICR.

e. Alternatives to Industrial Cost Recovery

Based on the study team's conclusion that ICR was not operating as intended, a series of 16 alternatives to ICR as presently formulated were compiled, and presented for discussion and comment at the ten public meetings held in the ten EPA Regional office cities. (See Exhibit V-1-6, Volume III for the Alternatives presented.)

The alternatives were developed by the Coopers & Lybrand study team, by EPA Regional Office and Headquarters personnel, and by the ICR Advisory Group. Each of the alternatives was intended to address one or more of the following concepts which surfaced during the course of the study.

- reduce rate disparities
- increase local discretion
- simplify administration
- limit excess capacity
- offer tax relief
- encourage industrial participation in POTW's

- encourage water conservation
- obtain additional data

At the time that the ICR Alternatives were presented, it was stated that they were not ranked in any order of preference, that they were not necessarily mutually exclusive, and that suggestions for additional Alternatives or variations on Alternatives would be welcome.

4. Conclusion

As a result of discussion and comments received on the ICR Alternatives presented, the following conclusion is proposed for immediate consideration:

THE INDUSTRIAL COST RECOVERY PROVISIONS OF P.L. 92-500 HAVE NOT ACCOMPLISHED THEIR LEGISLATIVE PURPOSES.

ICR is not meeting the legislative or economic intent which led to the enactment of ICR:

- Changes in tax law and IRS regulations since 1972 have impaired the ability of (or need for) ICR to serve as an equalizer in sewage treatment costs. For medium or large dischargers of compatible wastes, it appears less expensive over time to build and operate their own self-treatment facilities than it is to pay a proportionate share of the operating costs and local debt service of a public sewage treatment system.

- ICR has not served to control design and construction of excessive future capacity in wastewater treatment facilities. The average usage in the 227 facilities surveyed was 68% of design capacity.

- ICR is not credited with a role in encouraging water conservation. The industrial plants responding to

the Coopers & Lybrand survey reported an average reduction in water use of 29% (which could have an impact on the amount of future capacity that should be built), but attributed the reduction to increased water rates and sewer user fees rather than ICR. ICR is a relatively small charge to industry when compared with sewer user fees and water rates (ICR on the average is equal to about 10-15% of total sewage costs).

- ICR is inherently cumbersome to administer, and it does not seem probable that it can be further improved or modified without eliminating its original intent.

ICR is also found to have the following undesirable effects:

- It is a set of burdensome, complex Federal laws and regulations that are only marginally cost effective, when comparing the administrative costs of ICR to the ICR revenues collected.
- It increases the administrative costs associated with developing, implementing, and monitoring revenue systems at the grantee, state, and EPA levels.
- It increases total sewage costs to industry, adding.
- It creates discrimination in sewage costs, both with regard to type of business and size of business charged.

On the other hand, ICR also has the following positive effect:

- ICR will generate revenues to grantees and the U. S. Treasury. Total ICR revenues over 30 years are estimated to be between $1 and $2 billion. A few municipalities have already included their portion of the anticipated ICR revenue as income in their operating budget plans.

During the course of the study, several other issues were identified relative to the other aspects of ICR's intent (treatment capacity and water conservation) and the total cost of

sewage treatment. These issues may require further study, in light of the passage of the Clean Water Act of 1977 (P.L. 95-217) and its implementing Regulations. Mechanisms currently exist which address the sizing and water conservation issues, and tax changes have largely eliminated the issue of parity. The cost-effectiveness guidelines published in the Federal Register September 27, 1978 should limit future speculative industrial capacity. Proportionate user charges and increased water rates are credited by industrial users as having been the prime motivators behind a 29% reduction in water use. Some of those issues are: change the criteria for determining the amount of capacity eligible for federal grant support and to eliminate federal support for speculative industrial capacity. This should encourage more precise sizing of wastewater treatment facilities; require repayment of local debt service on a proportional basis, at least related to flow. This would be an added incentive to conserve water, and to plan further capacity more stringently; and require each grantee to establish a locally administered trust fund for reconstruction or expansion of the treatment works, e.g. charging a uniform national rate to all users. This would serve to reduce future demands for Federal grants for reconstruction, and encourage water conservation.